

REMEDIAL PLANNING ACTIVITIES AT SELECTED
UNCONTROLLED HAZARDOUS SUBSTANCES DISPOSAL SITES
IN A ZONE FOR EPA REGIONS VI, VII, & VIII

U. S. EPA CONTRACT NO. 68-W9-0021

CONFIDENTIAL

SITE INSPECTION PRIORITIZATION REPORT
FOR
SITE ASSESSMENT ACTIVITY
AT
ABEX CORPORATION
WELLSTON, MISSOURI

Client:	Abex Corp
Project:	MOB031003767
Phase:	1.5
Date:	10-19-93

Work Assignment No.: 024-7JZZ
Document Control No.: 7760-024-A8-RT-CWVP

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Prepared for:
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ABEX.SIG

EXECUTIVE SUMMARY

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Site Location

The Abex site is located at 6600 Ridge Avenue within the city limits of Wellston, in St. Louis County, Missouri (Figure 1). The site occupies 11.5 acres. The approximate geographic coordinates of the site are 38°40' 38" latitude and 90° 17' 50" longitude (USGS 1954). The Abex site can be reached by taking Interstate 70 east from St. Charles, Missouri or west from St. Louis City, Missouri, to Highway 170. Take 170 south to Page Avenue and Page east to Ogden Avenue. Turn left and go north on Ogden Avenue to Ridge Avenue. Turn left on Ridge Avenue and go west one block to the site.

Site History and Operation

The facility was used as a secondary steel foundry from 1923 to 1982. During operation, the plant manufactured steel castings of all types and sizes. The processes included melting scrap steel in two electric furnaces, pouring the molten metal into sand molds, shaking out the castings, annealing in the three gas fired annealing furnaces, rough grinding, fine grinding and machining (MDNR 1990). Figure 2 provides an overview of the Abex site.

American Breakshoe Company - American Manganese Steel Division owned this site since 1923. On April 26, 1966, American Breakshoe Company changed its name to Abex Corporation. In 1968, Abex Corporation merged with Illinois Central Industries, Inc. and became a wholly-owned subsidiary of Illinois Central Industries, Inc. The plant operated as a secondary steel foundry (SIC code 3325) from 1923 until its closure on March 26, 1982. The plant operated as a job shop manufacturing steel castings weighing from 0.5 lb up to 10,000 lbs. the processes at the plant included melting scrap steel in two electric arc furnaces, pouring the molten metal in sand molds, shaking out the casting, annealing in three gas-fired annealing furnaces, rough grinding, finish grinding and machining. The plant during normal conditions operated on three shifts a day and five days a week. The plant had employed a maximum of 300 workers. In January 1982, the plant had 212 employees (MDNR 1990).

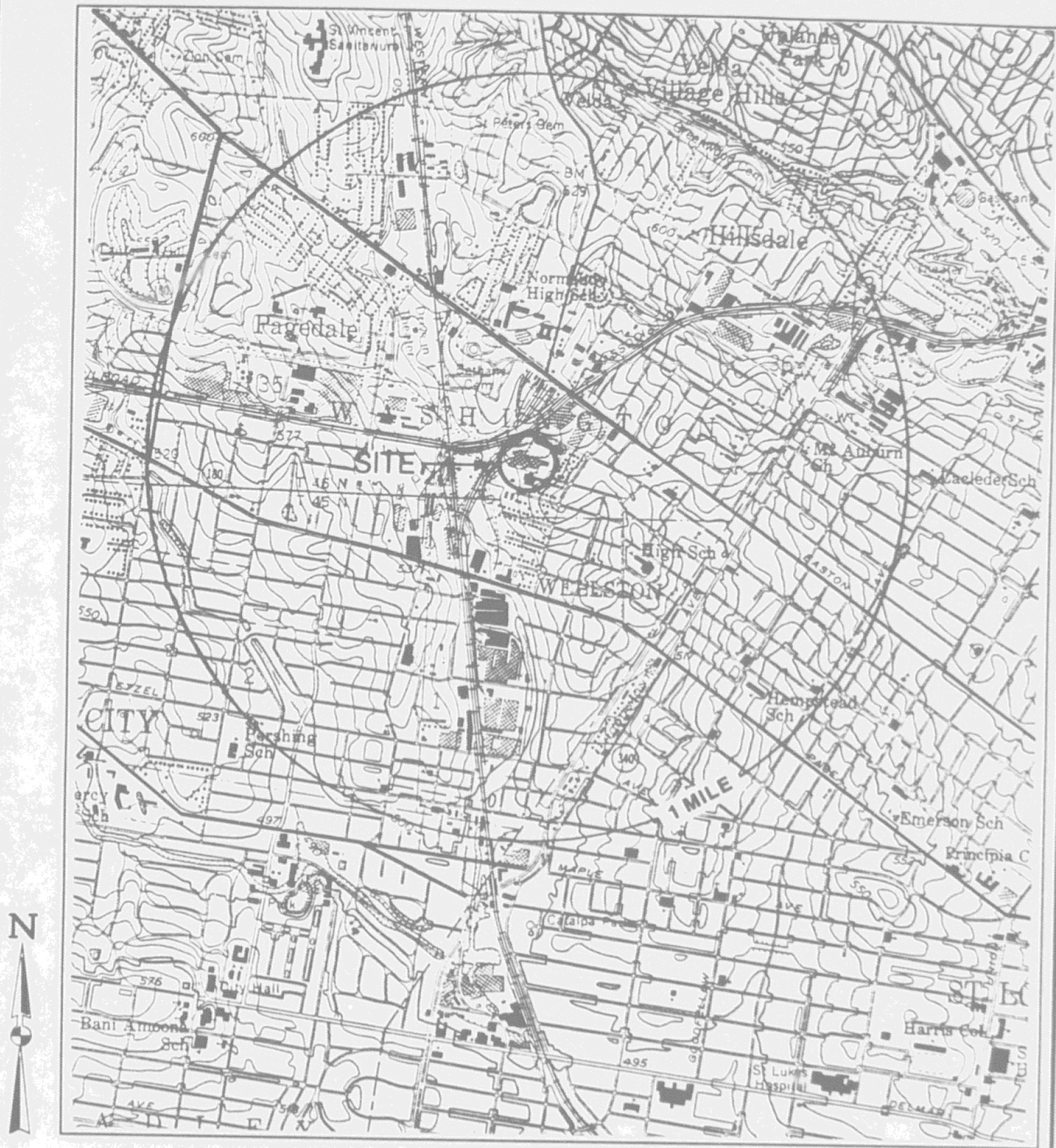
Previous Investigations

On August 16, 1984, a Preliminary Assessment (PA) of the Abex Corporation was initiated by the Missouri Department of Natural Resources (MDNR). The following conclusions and recommendations were made in August of 1984 based on information obtained during the PA investigation.

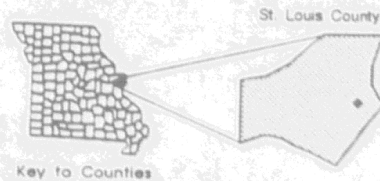
PA Conclusions


This site, in its present condition, does not pose a significant threat to public health or the environment and should be assigned a low priority for further investigation. This conclusion is based upon the following considerations:

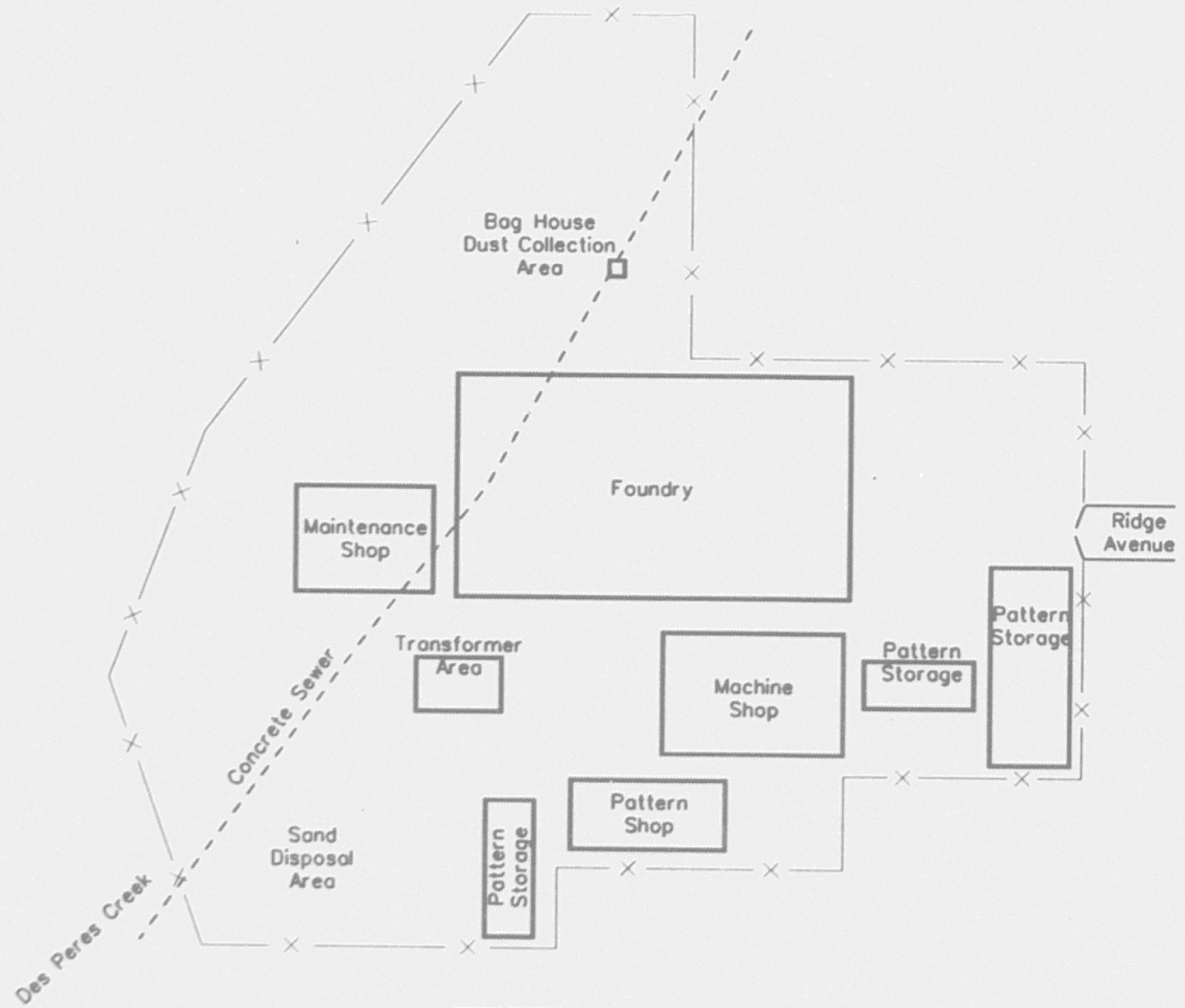
- The amount of waste material in the sand dump area appeared to be minimal.



Source: USGS 7.5' Topographic Quadrangle, Clayton, Mo. 1974




Project No.: 7760-024	ABEX Corporation Wellston, Missouri  CDM FEDERAL PROGRAMS CORPORATION <small>a subsidiary of Camp Dresser & McKee Inc.</small>	Site Location Map		Figure No.: 1 3/93
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NOT TO SCALE

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Project No.: 7760-024	ABEX Corporation Wellston, Missouri	Site Map	Figure No.: 2
	 CDW FEDERAL PROGRAMS CORPORATION <small>a subsidiary of Camp Dresser & McKee Inc.</small>		3/93

- A good growth of vegetation was observed on the sand dump area. No vegetative stress was observed at the site.
- No landfilling operation was performed at the site.
- Due to the conflicting analytical data, it is uncertain at the present time whether the company-generated hazardous waste at this site.

PA Recommendations

MDNR, in their PA report, recommended that further agency action may require sampling of the sand dump area which would aid in determination of the presence or absence of hazardous wastes at this location. It was uncertain at the time of the PA whether Abex Corporation generated any hazardous wastes at this site due to conflicting data from two independent laboratories.

REACT SITE INVESTIGATIONS

On October 22, 1986, REACT (Ryckmans Emergency Action & Consulting Team) entered into a contract with Abex Corporation to implement the following:

- Conduct a site inspection of the property located at 6600 Ridge Avenue, Wellston, Missouri, to assess the compliance status of the facility.
- Produce an engineering evaluation report and preliminary corrective action options.
- Provide a preliminary scope for additional services and/or needed corrective action.

On Tuesday, November 4, 1986, REACT performed an onsite inspection of the Abex plant located at 6600 Ridge Avenue in Wellston, Missouri. The following six recommendations were made as a result of this inspection:

- Fine dust in the manufacturing building should be sampled to verify that the material is not subject to disposal as a hazardous waste.
- Various sumps having oil/water mixture should be analyzed for presence of PCBs, RCRA heavy metals, corrosiveness, reactivity, phenols, pH, and flash point (per disposal facility and MDNR. Following analysis, liquids should be separated and disposed of in an appropriate manner.
- Various drums/pails should be sampled and materials disposed of in an appropriate manner.
- The landfill area, located in the rear southwest corner of the property, should be investigated for the presence of contaminated materials (fines and/or oil). If contamination is detected, the materials should be excavated and disposed of in an appropriate manner.

- The insulation in the office building and boiler room should be sampled and analyzed for asbestos content.
- Underground tanks should be registered with MDNR and investigated to determine if they present any environmental liabilities.

In response to REACT's recommendations, REACT was retained by Abex Corporation to perform sampling for ultimate disposal of drums and containers located within the Abex facility and drums in the landfill area. The following list of activities were performed by REACT:

- Plant Building and Materials Sampling (November 11, 1986).

The plant buildings were inspected and 83 drums, buckets, and pails containing materials were collected and staged in the shipping building. Containers were given sequential numbers and samples were collected for analysis. A large number of surface containers, in various stages of burial, were observed in the landfill area.

Samples of the oil and water in the pits inside and outside the machine shop and other storage tanks were collected for analysis.

Samples from accessible underground tanks were collected and appeared to be pure petroleum product with no visible water. These samples were not analyzed.

- Staging of Landfill Drums (November 20, 1986).

The landfill contained 61 containers visible from the surface which were loaded or winched to the asphalt drive. To minimize the possibility of tracking contamination, equipment was staged and washed on the asphalt drive before being moved to the shipping building. This allowed equipment and personnel to be decontaminated of possible wastes before movement was made to other parts of the complex.

- Sampling of Remaining Materials (December 5, 1986).

The above 61 containers were sampled and catalogued for further analysis.

- Disposal of Empty Containers (December 5, 1986).

Forty-eight empty containers were loaded and disposed of at West County Disposal, P. O. Box 428, Valley Park, Missouri, 63088.

- Initial Disposal of Solid Materials (December 17-18, 1986).

After review of manufacturing material safety data sheets and lab analyses, an additional 50 containers of various materials were disposed of at West County Disposal.

- Removal of Water and Oil from Pits (December 21, 1986).

The oil layer was removed by using Type 151 sorbent pads and placed in double 4-mil plastic bags. After review of lab analyses, Bernard Rains, Manager of Industrial Pollution Control, St. Louis Metropolitan Sewer District, approved disposal of the remaining water at the Bissell Point Plant. The waste sorbent was solidified on January 6-7, 1987, and was approved for disposal by MDNR on February 18, 1987, and was disposed of as a special waste solid at West County Disposal on March 10, 1987.

- Remaining Materials Stored (December 18, 1986).

Various materials pending identification and disposal were loaded onto a 40-foot trailer for secure storage and subsequent transport.

- Liquid Loading for Disposal (January 23, 1987).

Once approved for disposal, the remaining materials were loaded for transport to disposal facilities as follows:

- Sixteen containers of various petroleum products were combined to make 8 drums which were reclaimed by Kiesel Oil, 4801 Filer, St. Louis, Missouri.
- Van Waters and Rogers, 8925 Seeger Industrial Drive, Berkeley, Missouri, a registered hazardous waste storage facility, approved storage of 4 drums of hazardous waste at their facility until ultimate disposal is completed. These drums contained a variety of wastes including paint solids, flammable solids, liquids, and corrosives.

Twelve containers were combined into 2 drums and were incinerated on February 3, 1987, at McKesson EnviroSystems, a division of Van Waters and Rogers.

Two drums were awaiting shipment for Ensco, 1015 Louisiana Street, Little Rock, Arkansas, for incineration at this time.

Because of no market resale, 6 containers of the original product containing two kinds of paint and roofing patch were given away.

Eight remaining drums of a hard, tar-like substance are pending written approval by MDNR as a special waste. Lab analysis confirmed these materials as nonhazardous.

- Discrepancy in Storage Requirements (December 22, 1986).

After an initial verbal approval to store the remaining wastes at a second corporate site in St. Louis, the MDNR refused to issue a written statement. The MDNR also ruled the wastes could not be moved to any site except an approved hazardous waste storage facility. All local storage facilities refused to accept the waste. Van Waters and Rogers agreed to store any wastes once lab analyses were reviewed and the waste was approved for disposal at one of their disposal facilities.

On March 6, 1987, a Remedial Action Report for the site was completed by REACT, St. Louis, Missouri. This report is on file at the MDNR, SLRO, and Waste Management Program (WMP), Jefferson City office. The report delineates action conducted by REACT as directed by Abex to assess the compliance status of the site and remove various materials from the site. The action consisted of testing for hazardous waste at specific locations at the site. According to REACT, no hazardous materials contamination was detected. Four drums of products used in the production process and a large amount of solid wastes were properly disposed of during the action. REACT did not conduct a subsurface, groundwater, or underground tank investigation during this action.

PA Re-Evaluation

The Region VII EPA tasked the Ecology and Environment, Inc., Field Investigation Team (E&E/FIT) through Technical Directive Document (TDD) No. F-0-7-8804-040 to conduct a PA re-evaluation of the Abex Corporation site, located in Wellston, Missouri.

It was E&E's recommendation that the present status and condition of the facility be determined and that samples be collected from the sand dump to determine if any contamination in this area exists. All work on this site could be conducted on a low to medium priority (SI) basis.

REACT Closure Report

On August 15, 1989, a Closure Report for 7 underground storage tanks at the site was completed by REACT. According to REACT, the tanks were removed in accordance with state and federal regulations. The REACT report is provided as an attachment in order to provide details on the tank removal. Soil samples were taken at the tank locations which provided some indication of contamination within surrounding soils. As a result of this sampling, a total of approximately 1,800 cubic yards of soil was removed. Additionally, treatment of groundwater, at the bottom of the tank excavations, was completed with "Bio-Solve" and the treated water was subsequently discharged to the MSD sewer system. One groundwater sample was taken which indicated nondetects for contaminants of concern (TPH, BTEX, and volatile organics).

MDNR Hydrogeologic Report

On August 17, 1989, a Hydrogeologic Report on the site was completed by Ms. Mimi Garstang, MDNR, Division of Geology and Land Survey. Conclusions drawn by the report indicate that fill material of concern at the west end of the property and contaminated, pooled surface waters in and around the Abex facility are probably not affecting groundwater. Any contamination should stay in surface water flowing south-southwest and eventually reach the storm sewer system. Upper soil

layers or perched water zones may also be affected. Perched water levels will vary seasonally. Fill areas will be most permeable and natural soils less permeable.

Site Inspection (SI)

On March 12, 1990, sampling at the site was completed by the MDNR, Laboratory Services Program (LSP). The report was completed on May 30, 1990. A total of 5 water samples, 7 soil samples, and 1 sediment sample was collected at the site. The results of the sampling were included in an August 1990 site investigation report and summarized in Table 1. Sample locations are identified on Figure 3.

A total of 4 subsurface soil samples were collected. Background Sample No. 90-0551 was collected as a composite from sampling intervals 5, 10, 15, and 20 feet (Boring No. 1). Sample Nos. 90-0554 and 90-0557 were collected as composite samples from intervals of 5, 10, 15, 20, 25, and 30 feet (Boring No. 2 and Boring No. 3, respectively). No sampling interval data is available for Sample No. 90-560. A total of 3 surface soil samples were collected at the site. Each sample was collected as a composite of 5 aliquots to include Background Sample 90-0552.

It is stated that only one sediment sample was taken at the site. MDNR stated, in the text of the report, that background levels of PCB-1260 was 28 $\mu\text{g/kg}$ in "subsurface soils" and does not present any indication of an upgradient sediment sample being taken.

Two surface water samples (90-0556 and 90-0559) were taken at the site. Sample 90-0556 was taken from below the sewer outfall, downgradient of the site. Sample 90-0559 was taken from the sewer upgradient, near the bag house area.

A total of 3 groundwater samples were collected at the site; 90-0561, 90-0562, and 90-0563. Sample No. 90-0561 was defined as a background sample. Samples were collected from 2-inch PVC-cased monitoring wells located onsite.

Sample analytical results for the March 12, 1990, MDNR Report indicated surface soil contamination of PCB-1260 at the transformer and bag house areas, and in sediment below the storm water sewer. Contamination was 750 $\mu\text{g/kg}$ (transformer), 63 $\mu\text{g/kg}$ (bag house), and 220 $\mu\text{g/kg}$ (sediment below sewer) compared to 28 $\mu\text{g/kg}$ in an upgradient background sample taken from near the east entrance gate on Ridge Avenue. All background samples for the site were taken at this gate. No migration of PCB-1260 contamination into subsurface soil or into subsurface water at the site was indicated by the sample analysis.

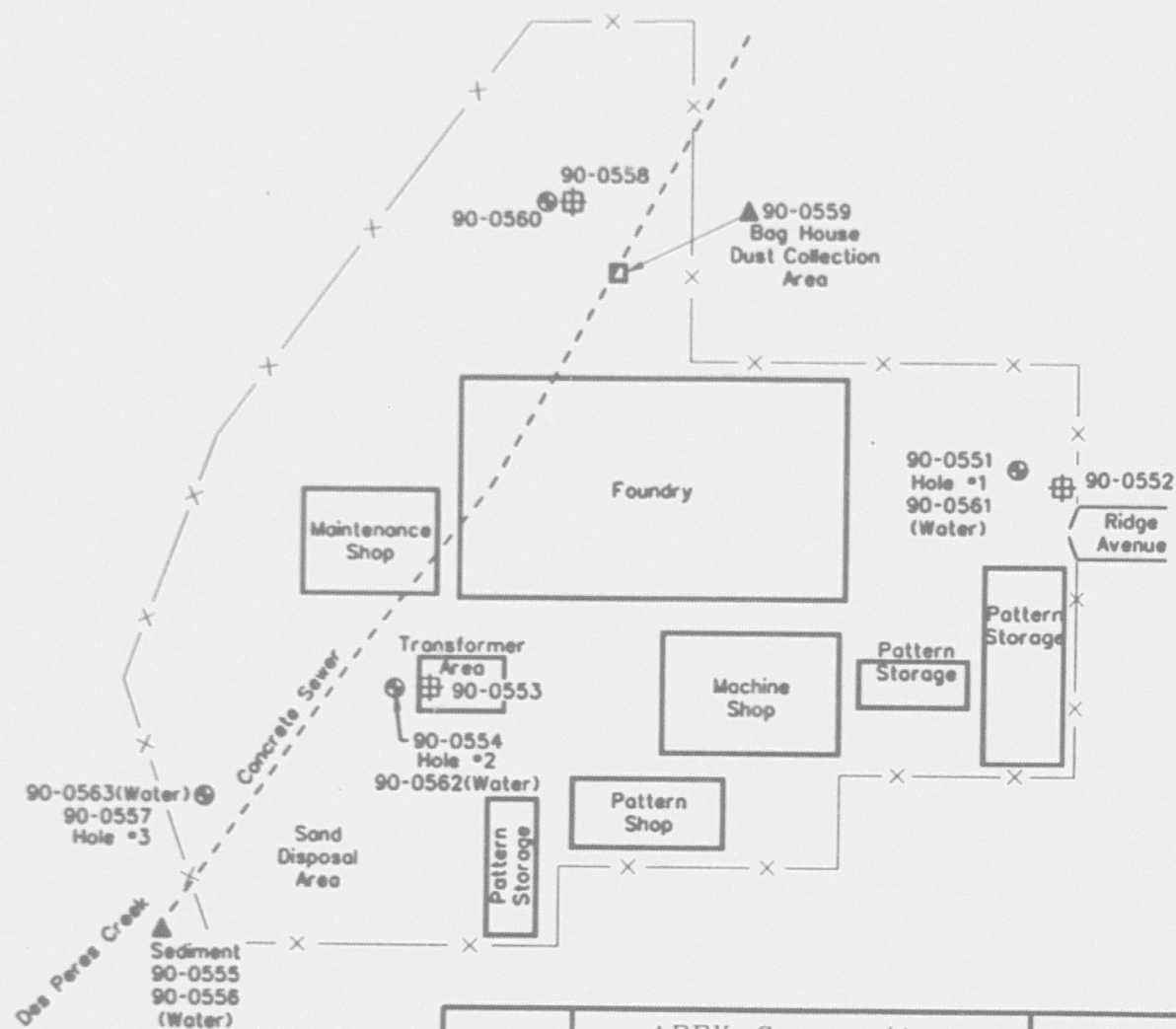
On August 27, 1990, an SI report was completed from previous file information and data obtained during the March 1990 sampling at Abex Corporations, St. Louis, facility. After a review of all available information, it was concluded that both pathways for and targets of any contamination at the site are very limited. Further Superfund action by MDNR was not recommended. However, it was recommended by MDNR that the Missouri Department of Health needs to determine if PCB and total metals contamination at the site poses a threat to persons using the site in the future. In addition, MDNR recommended that MDNR and the Metropolitan Sewer District (MSD) pursue the sources of the solvent contaminants in the sewer sediment which cannot be traced to the site from the sample analysis provided. It was further recommended that the MSD pursue Abex to reduce

TABLE 1
Analytical Results
Site Inspection
March 1990
Abex Corporation Site
Wellston, Missouri

Sample No.	90-0551 ¹	90-0554	90-0557	90-0560	90-0552 ¹	90-0553	90-0558	90-0555	90-0556	90-0559	90-0561 ¹	90-562	90-563	90-0564 ⁴
Matrix	Subsurface Soil				Surface Soil			Sediment	Surface Water		Groundwater			
Parameter		µg/kg				µg/kg		µg/kg	µg/L		µg/L			
Arsenic	2,100	7,600	9,100	5,200	7,700	10,000	56,000	6,400	ND	ND	6.7	8.0	15	NA
Barium	700,000	380,000	96,000	87,000	140,000	370,000	140,000	93,000	ND	ND	280	520	410	NA
Cadmium	420	1,300	680	750	2,000	5,900	31,000	3,200	18	12	18	7.0	2.0	NA
Chromium	13,000	16,000	130,000	22,000	220,000	390,000	1,700,000	68,000	11	11	10	25	94	NA
Lead	14,000	57,000	21,000	15,000	180,000	380,000	2,100,000	750,000	6.0	14	11	16	68	NA
PCB-1260	ND	ND	ND	ND	28	750	63	220	ND	ND	ND	ND	ND	NA
2-Butanone	ND	ND	ND	ND	ND	ND	ND	240,000	ND	ND	ND	ND	ND	ND
Me-chloride ³	ND	ND	ND	ND	ND	ND	ND	64,000	ND	ND	ND	ND	ND	ND
1,1,1-TCA	ND	ND	ND		ND	ND	ND	7,100	ND	ND	ND	ND	ND	ND

NA = Not Applicable

- 1 = Background Sample
- 2 = VOA Blank (Trip)
- 3 = Methylene Chloride
- 4 = Trip blank (VOAs)



LEGEND

-  Surface Soil
-  Comp. Sub Soil
-  Surface Water

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Source: MDNR SI, 1990

MCS FILE: SAMPLE

Project No.
7760-024

ABEX Corporation
Wellston, Missouri



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Sample Location
Map

Figure No.
3

10/93

PCB contamination which is entering the sewer system from the site. It should also be noted that such discharge or release of PCBs into the MSD storm sewer system may be in violation of the Clean Water Act (CWA).

PATHWAY ASSESSMENT

Groundwater Pathway

Bedrock at the site is cyclic deposits of Pennsylvanian age sandstones, shales and limestones of the Cherokee Group. The uppermost bedrock unit is mostly shale with alternating thin sandstone and limestone lenses. The shale is typically tight and unfractured and exhibits moderately low permeability. Coal and clay mining were once active in this general area. The thickness of Pennsylvanian age sandstones, shales, and limestones is estimated to be at 50-60 feet. Underlying the Cherokee Group are the more permeable Mississippian age limestone that is characterized by sinkholes where exposed to weathering. The closed depression north of the Abex building could be an indication of karst features of the Mississippian surface at depth. There would be direct recharge to groundwater from this feature. The low area could also be an excavation or borrow site, which is more likely. Then groundwater would not directly receive recharge from that depression (MDNR 1990).

These cyclic bedrock deposits of Pennsylvanian age sandstones, shales and limestone overlay the Maquoketa formation which is comprised of shales and shaley limestones. This is generally not an area of deep groundwater recharge. The Maquoketa Formation serves as a confining layer for downward water movement. The regional bedrock surface slopes slightly to the northeast. The Dupo Anticline pinches out to the south of the site and the Pennsylvanian bedrock surface should be relatively flat. Regional groundwater movement should be in the direction of the Mississippi River to the east-northeast. Deep aquifers in this area yield saline water. Little well usage is apparent in this vicinity (MDNR 1990). The approximate depth to groundwater is 20 feet at the site. This depth will vary seasonally.

The groundwater sample from the sand disposal area indicated contamination of the following: total barium, 410 $\mu\text{g/L}$ compared to 280 $\mu\text{g/L}$ in the background sample; total chromium, 94 $\mu\text{g/L}$ compared to 10 $\mu\text{g/L}$ in the background sample; and total lead, 68 $\mu\text{g/L}$ compared to 11 $\mu\text{g/L}$ in the background sample. The groundwater sample from the transformer area indicated contamination of total barium at 520 $\mu\text{g/L}$ compared to 280 $\mu\text{g/L}$ in the background sample.

Additionally, the groundwater sample from the sand disposal area also was contaminated with 1,1-Dichloroethane at 8.9 $\mu\text{g/L}$ and 1,1,1-Trichloroethane at 26 $\mu\text{g/L}$ compared to none detected in the background sample. However, since these contaminants were not found in any other sample analysis, taken at the site, these contaminants may be migrating into the groundwater from offsite (MDNR 1990).

The HRS score for this pathway is 0.09. This is based upon a release to groundwater of the above listed contaminants. This score, however, reflects that no targets currently exist for this pathway. All drinking water for the area is obtained from surface water intakes located on the Mississippi and Missouri River (Ray 1993).

Surface Water Pathway

The local topography is characterized by moderate ridge tops with moderate to steep hill slopes. Much of the area has been extensively reshaped by cutting and filling to achieve a level surface. The Abex site is on the western slope of a hill that terminates at an urban drainage adjacent to a railroad spur. The hill slope has been graded to less than 5% slope at the site. An unnamed drainage way flows to the south 0.2 miles along the railroad spur where it joins another north to south running tributary and continues south for 0.5 miles, where it flows into the county storm sewer system. Generally, surface water from the site flows into this unnamed southerly flowing tributary, southwest of the Abex facility. An internally drained depression once existed just north of the Abex operations and it likely once received much of the surface water from the facility. This may have been a man-made depression due to grading the fill materials for a desirable building site. In recent times, however, the depression has been made into a parking area and paved. Surface water should continue to the west through the paved area and eventually reach the tributary. Various types of fill material have been deposited along this drainage. It is considered gaining for the duration of its surface flow (MDNR 1990).

Two surface water samples were collected; 90-0556 was collected from the sewer upgradient, near the bag house area. Sample results would indicate that some limited migration of contaminants is occurring, however, a more substantial sampling effort would have to occur to verify if migration is occurring. Sample contaminant levels, as indicated in Table 1, are not significantly high, therefore, dilution weights or factors should be considered when evaluating this data.

A sediment sample was collected from below the storm sewer outfall and found to be contaminated with 240,000 $\mu\text{g/kg}$ 2-butanone, 64,000 $\mu\text{g/kg}$ methylene chloride, and 7,100 $\mu\text{g/kg}$ 1,1,1-trichloroethane. These contaminants, as stated by MDNR in their March 1990 SI Report, could not be traced to the site. No background sediment sample was collected for the site. It is presumed by MDNR that the volatile organics detected are probably migrating from an offsite source.

A surface water pathway score of 0.6 was calculated for the site. The score is based upon a release to surface water. A low score, with respect to this pathway, is a result of a relatively high dilution weight associated with the Mississippi River and the lack of sufficient targets related to the surface water pathway (Ray 1993). One surface water intake exists along the Mississippi River which could possibly be affected by this site, however, with the high dilution weight and possible contamination associated with highly industrialized areas, the effect on surface water by the site would be negligible (Schlosser 1993, Manning 1993).

Air and Soil Exposure Pathways

The air pathway is not considered a significant route of migration. This pathway scored a 0, based upon a potential to release.

Sample analytical results for this report indicated surface soil contamination of PCB-1260 at the transformer and bag house areas, and in sediment below the storm water sewer. Contamination was 750 $\mu\text{g/kg}$ (transformer), 63 $\mu\text{g/kg}$ (bag house) and 220 $\mu\text{g/kg}$ (sediment below sewer) compared to 28 $\mu\text{g/kg}$ in an upgradient background sample taken from near the east entrance gate

on Ridge Avenue. All background samples for the site were taken at this gate. No migration of PCB-1260 contamination into subsurface soil or into subsurface water at the site was indicated by the sample analysis (MDNR 1990b).

Surface soil contamination of total metals was also found at the site. The transformer area contained the following contamination by total metals; 10,000 $\mu\text{g/kg}$, arsenic, compared to 7,700 $\mu\text{g/kg}$, in the background sample; 5,900 $\mu\text{g/kg}$, cadmium, compared to 2,000 $\mu\text{g/kg}$, in the background sample; 390,000 $\mu\text{g/kg}$, chromium compared to 220,000 $\mu\text{g/kg}$, in the background sample; 380,000 $\mu\text{g/kg}$, lead, compared to 180,000 $\mu\text{g/kg}$, in the background sample. The surface soils of the bag house area contain the following contamination by total metals: 56,000 $\mu\text{g/kg}$, arsenic, compared to 7,700 $\mu\text{g/kg}$, in the background sample; 31,000 $\mu\text{g/kg}$, cadmium, compared to 2,000 $\mu\text{g/kg}$, in the background sample; 1,700,000 $\mu\text{g/kg}$, chromium, compared to 220,000 $\mu\text{g/kg}$, in the background sample; and 2,100,000 $\mu\text{g/kg}$, lead, compared to 180,000 $\mu\text{g/kg}$, in the background sample. A surface soil sample was not taken at the sand disposal area (MDNR 1990).

The surface contamination of total metals extended in the soil core samples (subsurface composite soil samples). The soil core sample at the transformer area contained the following contamination by total metals: 7,600 $\mu\text{g/kg}$, arsenic, compared to 2,100 $\mu\text{g/kg}$, in the background sample; 1,300 $\mu\text{g/kg}$, cadmium, compared to 420 $\mu\text{g/kg}$, in the background sample; 16,000 $\mu\text{g/kg}$, chromium, compared to 13,000 $\mu\text{g/kg}$ in the background sample; 57,000 $\mu\text{g/kg}$, lead, compared to 14,000 $\mu\text{g/kg}$, in the background sample. The soil core sample at the sand disposal area contained the following contamination by total metals: 9,100 $\mu\text{g/kg}$, arsenic, compared to 2,100 $\mu\text{g/kg}$, in the background sample; 130,000 $\mu\text{g/kg}$, chromium, compared to 13,000 $\mu\text{g/kg}$ in the background sample; 21,000 $\mu\text{g/kg}$, lead, compared to 14,000 $\mu\text{g/kg}$, in the background sample. The core soil sample at the bag house area did not show significant contamination by total metals (MDNR 1990a, MDNR 1990b). Refer to the discussion on the March 1990 SI Report for sample depth details.

The HRS score for the soil exposure pathway was calculated to be 0.37. This pathway score is based on an observed release. No targets exist for this pathway with the exception of worker activity. The nearest residence is estimated to be approximately 500 feet from the site (USGS 1954). No Level I or Level II targets exist for the site. Target populations were evaluated for individuals within 1 mile of the site.

Summary

The Abex Corporation (Abex) site is a tract of land that was used as a secondary steel foundry from 1923 to 1982. During operation, the foundry stored wastes generated during operation in piles on the ground prior to offsite disposal.

Because of uncertainties concerning hazardous substances at the Abex site, the MDNR conducted sampling and investigations at the site to determine the presence or absence of hazardous substances and if present, what threats these hazardous substances posed (MDNR 1990).

Analyses from the sampling indicated the presence of PCB-1260 in the surface soil at the site. The analysis also indicated the presence, above background levels of a number of heavy metals in the surface soil, subsurface soil, and groundwater onsite. It appears that some of the PCB

contamination is migrating offsite via the drainage way sediment. The sediment also was found to contain solvent contamination that cannot be traced to the site from the sampling data. Investigations indicate that the pathways and targets of any hazardous waste contamination from the site are very limited (MDNR 1990).

HRS scoring of the Abex site indicates that all pathways, though affected by onsite contamination, are not significantly affected when considering target information. The groundwater pathway score has been calculated to be 0.3; the surface water pathway score is 0.6; the soil exposure pathway score is 0.37; and air pathway score is 0.

MDNR Site Evaluation

The following are MDNR's recommendations based on information in the March 1990 MDNR SI Report:

Review of all information on the site, including the Site Inspection Report, indicates that contaminant pathways and targets at the site are very limited at this time. Further Superfund action by MDNR at this time seems unwarranted. However, the Missouri Department of Health (MDH) to determine if PCB and total metals contamination at the site poses a threat to persons using the site in the future. In addition, the MDNR and MSD need to pursue the sources of the solvent contaminants in the sewer sediment which cannot be traced to the site from the sample analysis provided. The MSD may also want to pursue Abex to reduce PCB contamination into its sewer system.

Recommendations

Since the Abex site does not significantly impact any of the pathways of concern and that there are few targets affected, CDM Federal recommends to the U. S. EPA that the Abex Corporation site be assigned the status of site evaluation accomplished (SEA). However, MDNR's original recommendation that the MDH perform an evaluation of the site may still be appropriate and therefore, warrant follow-up.

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